HIMEJI CASTLE: DESIGN AND MEANING OF ITS ROOFS

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Abstract: From the top of the hill, Himeji castle chiefly commands the landscape of Himeji city. The castle's superposed roofs and the form and complexity of the roof design are the castle's most charming and intriguing features. This paper helps the reader to decipher and understand the meaning of Himeji castle's roofs. In order to place Himeji castle temporally and culturally, at first, the author explains the architectural typologies of traditional Japanese roofs in general and the castle building tradition. Examining key buildings contemporary to Himeji Castle, such as Edo Castle Honmaru Palace, The author shows how the roof forms of medieval Japan were related to the space sheltered under them and how they were used to express social status and to socially organize space. The author also analyzes and discusses Himeji Castle's roof typology. Here through the study of Himeji Castle's roof design the reader will understand how the different shapes of roofs were used to express the social organization of feudal Japanese society and how they worked as a stylistic system.

Keywords: Himeji Castle, Edo Castle Honmaru Palace, roof design, hierarchical status, karahafu, hipped-gabled roof

1. Introduction

Himeji castle is an important feature of the Himeji city landscape. The castle is a physical expression of a now romanticized historic period, an age of incredible warlords and samurais. Himeji Castle's design is an aesthetic expression of this epoch society's values, its symbolic design charms and characterizes the city of Himeji. In Japan most of the important cities were originally castle towns. During the middle ages amazing numbers of castles were built all around the country. However, today only few of these castles still exist. After Azuchi Castle, Himeji Castle may have been the most impressive structure built by a warlord. Even the tower of Edo Castle was not as glamorous and complex as Himeji Castle towers were. Today among the few surviving castle towers Himeji castle is without doubt the biggest, and the most complete castle still in existence.

Himeji castle is amazing not only by its design but also by its good luck. The Castle survived many critical historical periods. The first crisis came with the end of Edo Bakufu (1603-1868)[1], which also brought and end to Edo period castles. In terms of imposing the new regime and to erase the old Tokugawa feudal system influence, the Meiji government (1868-1912) ordered to sell and demolish all castles, which were symbols of the former regime. At this time part of Himeji castle, the palaces and buildings on the lower part of the site were dismantled and sold. Fortunately due to its enormous size, the Himeji Castle tower found no buyer and survived this crisis. The Castle later became under the national army protection. In fact during the Meiji Reformation[2] most of the castles were dismantled and only few castle towers, the ones in the countryside or the ones that were too big to be dismantled survived. Later, many of these castles perished during the Second World War. Although the city of Himeji was heavily bombed during the War, Himeji Castle miraculous survived. After the War, the Castle became a protected cultural property, and was completely restored. Himeji Castle even resisted the strong Hanshin earthquake of 1995. Now the building is a UNESCO world heritage site and attracts thousand of tourists to Himeji city every year. The castle's importance is cultural and economical. The tourism industry generated by the castle helps to keep Himeji city economically healthy.

Hereafter the author analyses the design of Himeji castle's façade, with a focus on the design of the superposed roofs and their symbolic meaning. Furthermore, the author situates the castle historically and culturally, explaining the

Japanese feudal society's architecturally aesthetic expression, and shows how those values were translated into the complex façade design.

2. Roof Design in Japanese Architecture

Japanese have always used architecture to express the social status of their residents and the hierarchical status of the activities that took place inside the buildings. Citing Yoshida Kenko (1283-1350), "The appearance of a house is in some sort an index to the character of its occupant"[3] or also translated as " each person should live in a building with a design corresponding to their social status".[4]

Japanese feudal society, since the Kamakura period (1192-1333), and even more so in the Edo period (1600-1868) was clearly divided by casts, and the social status difference between these classes was expressed through the clothing and translated in the design of their buildings. Architecture was used to physically, visually, and psychologically express the social organization of Japanese society during that period.

Japanese traditional architecture has a complex roof typology and the roof is an important element in the design of the façade. This rich variety of roof forms derive from two basic roof forms, gabled roofs (*kirizuma*) and hipped roof (*yosemune*). All other roof forms were derived from or were a combination of these two (fig.1). I

There are four main types of roofing materials: tile, thatch, planks, shingle and bark. If we look attentively at the roofs' shapes we will see that there are some forms of roofs and dormers that are only seen on particular types of buildings. For example, the *chidorihafu* dormer is only seen on shrines and palace roofs and cannot be found on common people houses. The relation between the spaces under the roof and the roof typology became stronger as the social importance of buildings increased. Here we will briefly discuss the most common forms of roofs and roof decorations with an emphasis on the forms related to the ones used at Himeji castle.

Chidorihafu is the name of a dormer bargeboard formed by triangular shaped dormers added directly to the slope of a gabled roof surface. The triangular shape with strong concave curves characterizes *chidorihafu* dormers. This kind of dormer has neither windows nor any ventilation capacity and its only purpose is decorative. The *chidorihafu* are found on shrines, palaces, and castle towers or turret roofs. Based on the analysis of Shinto architecture roof forms, it is believed that the *chidorihafu* dormer probably originated from the addition of hipped-gabled (*irimoya*) roofs. The chidorihafu have a strong symbolic meaning and many times the number of *chidorihafu* on Shrines roofs represents the number of gods worshiped at the shrine.

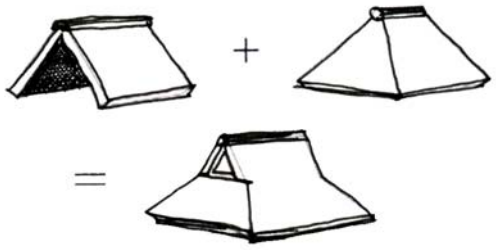

Fig.1: Basic roof forms, gabled roof (kirizuma), hipped roof (yosemune) and their combination the hipped-gabled roof (irimoya).

Karahafu is an undulating bargeboard that flows downward from the top center with convex curves on each side and concave curves at the ends. There is a gable pendant, *gegyo*, at the top center of the gable. The oldest example of *karahafu* dates from the Kamakura period (1192-1333) but based on drawings from picture scrolls the *karahafu* was used before the Kamakura period on smaller structures such as gates, boat roofs and carriage roofs. Consequently, the *Karahafu's* origin is probably much older

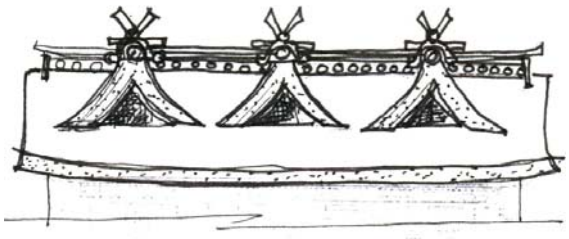

Fig.2: *Chidorihafu*- Gabled dormer bargeboard.

and may date from the Heian period (794-1185). In the karahafu dormer all rafters curve to the same degree as the bargeboard, what required high carpentry skills, so it took time until the *karahafu* was applied in architecture. Due to the Kamakura period development of carpentry technology, the karahafu gables started to be used in architecture. Although the word '*kara*' may suggest a Chinese origin, the *karahafu* is believed to be a Japanese invention[5]. The origin of the word *karahafu* may be related to its exquisite design and complex structure, and the word "*kara*" was probably used to connote elegance and noble appearance. The *karahafu* was first used on temples and later applied on residences. It was used as a status symbol and usually appears above entrances to temples, buildings of high status residences, and on castle towers.

Fig.3: Karahafu- Cusped dormer bargeboard.

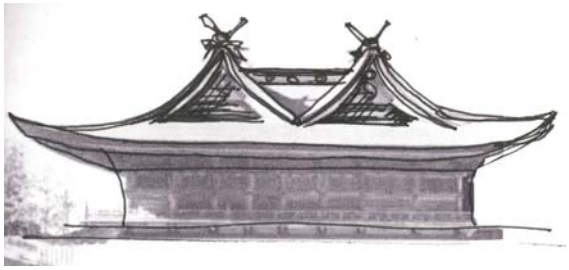

Fig.4: Hiyoko-irimoya, Kibitsu Shrine, Okayama

Hiyoku-irimoya is a style of roof formed by the parallel combination of two hipped-gabled (*irimoya*) roofs. This kind of roof decoration looks similar to the addition of two *chidorihafu* on the roof slope. The difference between the *hiyoko-irimoya* bargeboard and the *chidorihafu* bargeboard is that the eaves of the *hiyoko-irimoya* bargeboard continued with the eaves of the main roof while the eaves of the *chidorihafu* do not. The *hiyoku-irimoya* style is rare and can be seen at Kibitsu shrine, in Okayama prefecture. It also refers to two triangular dormers with the eaves connected to the main roof eave, as we can see at castle towers.

3 Edo castle Honmaru palace

The architecture of the samurais' houses was designed according to strict conventions. All the parts of the houses were determined according to the social rank of its owner. The most elaborate house was that of the Shogun at Edo. Edo castle is a good example of how the architecture, more specifically the roof design was used to express the social system and it hierarchical differences[6]. The Edo castle complex was the Edo government (*bakufu*) system translated architecturally.

Therefore, if we compare the roof plan and the floor plan of Edo Castle Honmaru Palace we can see the relation between the roof shapes and the spaces they shelter, how the roofs forms varies according to the function and social status of the space under it.

The Honmaru palace was the center of the Tokugawa executive government (*bakufu*) where the officials (*shoyakunin*) had their offices (*kobeya*). The castle buildings do not exist today, through elaborated sets of drawings made by the carpenters during the many reconstructions of the palace, we can have a precise idea of what the palace looked like and how it was spatially organized.[7] In the palace, there were independent rooms (*kobeya*) for each of the governmental departments (*yaku*). The palace was divided into three parts, progressing from south to north, the Omote, the Naka-Oku, and the O-Oku. "Omote" literally means outside and it was the most official part of the palace. It was where the offices of the different governmental organs were found, where ceremonies and events were held, and Imperial messengers or foreign ambassadors were received. The Omote main buildings were: Ohiroma, Shiroshoin and Kuroshoin. The buildings were placed in a zigzag pattern, progressing from south to north. Corridors and rooms connected these buildings. The Naka-oku part of the palace was the Shoguns private quarters. Here were located the shogun's working office, living room, and bedroom. The main rooms in the Naka-Oku were the Gozanoma, Gokyusoku and Gokozashiki. Apart from these rooms, there were several service rooms, such as bath facilities, servants' offices and even a No stage to entertain the Shogun. The main characteristic of the Naka-Oku was that it changed according to each shogun necessities. Every time a new Shogun was named the Naka-Oku plan was altered to better fit the new

shogun life style. On the contrary the Omote part of the palace was permanent and suffered few alterations since the first shogun, Yeyasu[8], times. Although the limits were not clear the officials that worked at the Naka-Oku were not allowed to enter the Omote and vise versa. When an official of the Omote and Naka-Oku need to meet, they met at the Tokeinoma. In those cases the Naka-Oku official sat in the room while the Omote official stayed outside. O-Oku was the women quarters where the Shogun wife and concubines lived. Excepted for the Shogun no man was allowed to enter.[9]

Edo Castle had a complex roof form and floor plan, which were strictly related to the building social and historical context. Edo Castle floor plan and roof typology reflected the Edo *bakufu* system itself. The different governmental organs and the way they were related to each other were expressed in the floor plan arrangement and roof typology of the buildings. The strict hierarchical system, characteristic of the Tokugawa bakufu, the status differences between the daimyos and officials composing the government was expressed through the roof typology, sitting position and by other architectural details. In Edo Castle the roof typology was directly related to the floor plan and to how the building was used.

In Edo Castle aesthetical and hierarchical system and different roofing materials were combined. The roof typologies employed were hipped, gabled or hipped-gabled, with the addition of chidorihafu, dormers and cusped gables. The variety of roofing materials was also great, and six types of roofing materials were used. There were two kinds of concave-convex type of cupper tiles, two different kinds of concave-convex type of clay tiles, and there were also smaller structures with cypress shingled (*kokera*) and planked (*kunugi*) roofs.

On the west side of the Honmaru palace were the reception halls, the most important buildings of the complex. On the east side of the palace were the administrative spaces, such as offices (*kobeya*) and service space: kitchen, servants' quarters etc. The reception halls on the west side had a cupper-tiled roof. The Ohiroma pavilion had the big type of cupper tiles while the other pavilions had the regular type of cupper-tiles.

The rooms on the east side had clay-tiled roofs, while the ceremonial buildings on the west side had cupper tiles. Not only the roofing material used on each pavilion roof was distinguished according to the building hierarchical status but the roof form also varied. The most employed roof form in the Honmaru palace was the hipped-gabled roof. Among the hipped-gabled roofed pavilions there are the Genkan, Tozamurai, Toranoma and Omote Daidokoro, which had the big size type of clay tiles. The offices and other service space on the East side of the castle had hipped roofs with the regular size of clay tiles.

As we have shown above in Edo Castle Honmaru Palace the hierarchically higher spaces had a more complex roof forms than the lower ones. The hierarchically highest space, Ohiroma, was the pavilion with the most complex and luxurious roof form. It had five chidorihafu, on a combination of three hipped-gabled roofs on a U form, roofed with the big type of cupper tiles. The next halls in the hierarchical rank were Shiroshoin, Kuroshoin, Gozanoma and Gokyusoku all of them had hipped-gabled roofs. Therefore the hierarchical distinction between each of these buildings was made through the number of chidorihafu applied on the roof, as higher the status was more were the number of chidorihafu on the roof. The Shiroshoin, which was second in the hierarchical rank, after the Ohiroma, had two chidorihafu, followed by the Koroshoin, with one chidorihafu, while the Gokyusoku, which was the last on the rank, had no chidorihafu at all.

In the Honmaru palace compound the hierarchically lower spaces had clay-tiled hipped or simply gabled roofs. There were few clay tiled hipped-gabled roof. The Tozamurai-Genkan and the Kitchen were the only pavilions among the clay tiled ones that had a hipped-gable roof, but the type of clay tile used on them was different from the tile used on the other pavilions. The *karahafu* bargeboard was used at the Genkan (entrace) pavilion and at Ohiroma's *kurumayose* roofs.

Through the analysis of Edo castle Honmaru palace we can see that the different governamental organs and spaces of the Edo *bakufu* where clearly represented with distinct roof forms and roofing materials. The hierarchically higher spaces had complex roof form, consequence of the gabled dormers (*chidorihafu*) addition on hipped-gabled roofs,

and the cusped bargeboard (*karahafu)* was used to mark the entrance. The roof form became simpler as the hierarchical state of the pavilions lows down.

4. Castle Towers: Origins and Historical Context

In Japan since antiquity castles were built for military purposes. During the Warring states period (*sengoku jidai*), the later years of 1467 to the end of the Muromachi period (1573), castles were built on the top of mountains. There were basically two kinds of castle, a castle to protect the Daimyo domain (*honjiro*), and a castle built to invade the enemy domain (*dejiro*). The *sengogu* period castles were quickly built, and had no castle tower, only small watch from turrets. The invention of the castle tower is attributed to Oda Nobunaga (1534-1582)[10]. The first full scale donjon built was Oda Nobunaga's Azuchiyama Castle, 1576. Following Nobunaga's example richly decorated donjon were built all around the country. The Azuchi Castle had seven floors and was the tallest structure built until that time. Japanese architecture has since antiquity the tradition of building high structures; good examples are the five stores pagoda of Horiuji Temple and Yakushiji Temple. However the Azuchi Castle was the first high structure with several stores that had a functional interior space and was used as a residence.

According to Nobunaga's diary[11] the concept of Azuchi Castle was to arrange the traditional samurai house spaces vertically, to pile up all the parts of his residence and put a belvedere at the top. Since Azuchi castle the meaning of the castles tower changed completely. The castles tower stopped to be a mere military fortress to watch from, and became aesthetically sophisticated towers to be watched at. The concept of castle tower, created by Nobunaga, was that of a symbolic building to express its lord's power and intimidate allies or enemies. Other daimyo also adopted the idea of transforming their residence in a tower to symbolize and express their power, using an architecture visible recognizable from far away. However soon it was realized that living in such a building, with so many stores and stairs, was not very practical. The lords kept the tower as a symbol of their power but stop using it as a residence and built their residences near the castle tower. The castle towers evolved from military watch from towers into residences, and later lose the residential function, and became a symbol of authority. Himeji Castle in comparison to Azuchi Castle is a later and much more developed form of donjon. However as an old style donjon it still retains military and residential functions. Himeji castle has less of the residential features than Azuchi castle and more of the military fortress aspect.

Even though an incredible number of castles were built during the sengoku period only few towers survived, and the oldest donjon remaining today date from the end of the 16th Century, beginning of the 17th Century. The oldest Castle towers are two little donjons, the Inuyama Castle and Maruoka Castle, two stores high buildings, believed to preserve old donjon style design, being designed to serve as a watching tower and with a strong military importance.

The auger of donjon construction are the years before the battle of Sekigahara[12] up to 1615.During this period all the lords re-structured and reinforced their castles. They reinforced the castles military, with moats and stonewalls, and reinforced the castles symbolic and politically, building beautiful donjons, extremely decorated. Innumerous donjons were built on several different styles, some preserving old styles while others using more elaborated forms. As a parameter of how many castle were built at the time, according to records in the year of 1606, 25 new castles were built.[13] However today the only donjons remaining from this period are: the Matsumoto Castle, Hikone Castle, Matsue Castle, Himeji Castle and part of Kumamoto Castle. The main characteristic of the Keicho period (1596-1615) donjon is the symbolic tower plus the technical improvements, and military elements added in the Edo period.

One of the first measures Tokugawa took to maintain peace and his hegemony was to forbidden the construction of new castles and also limited greatly the repair works of old ones. Evidently the castles that belong to Tokugawa *bakufu* were an exception. Due to this law the donjon construction boom became to an end. The last donjons built were those built at the Kan-ei (1624-1643) reconstruction of Edo Castle and Osaka Castle. Those late Edo style donjons had a simpler design than the older donjons, and were similar in form to the Buddhist temple pagodas. The Edo period donjon had no stone drop holes or *zama* (holes on the wall to attack the enemy) or any other military feature, the

towers had only a decorative function.

5. Deciphering Himeji Castle Roofs

Since the castle towers have a residential origin, the design the roofs of castle towers may also originate from residential design conventions. Through the analysis of Edo Castle Honmaru Palace we saw that the roof forms were related to the space they shelter under it. Although the castle towers were political and military power symbolized architecturally, and its roofs did not shelter any specific space, the order of pilling up the different roof shapes and dormers may be related to the way the roof design was used on residences. In this section we will first situate Himeji castle historically and later we will analyze the roof design of its towers.

When the first castle was built at the Himeji Castle site is not certain, but the first castle tower, stonewalls, and moat were built by Kashiba Hideyoshi[14] in 1580. Hideyoshi donjon was three stores high, not only the donjon but also castle site was much simpler and smaller in scale than the actual Himeji Castle. The Himeji Castle we know today was built by Ikeda Terumasa[15] from 1600 to 1609. The new Himeji Castle should correspond aesthetically to the high status of its lord, Ikeda Terumasa. The castle is a flat mountain land type with the palaces and other castle facilities arranged spirally. Himeji castle main donjon is a six stores structure, including the basement. The castle tower is composed of a main tower connected by turrets to the three smaller towers. After Ikeda the administration of Himeji castle took turns between the Honda, Matsuhira and Hara family. The last Himeji Castle's lords were member of the Sakai family. Himeji castle has the nickname of white egret, due to its white walls, and is a UNESCO world heritage site.

During medieval Japan Himeji castle site was a very important strategic point because it connected the west and east parts of Japan. The lords from the west, after loosing at Sekigahara had to pass by Himeji on their way to Edo, where they served the Tokugawa Bakufu. Tokugawa Ieyasu took several measures to prevent the west lords to rebel against his government. At first, Tokugawa forced all daimyos to have residences in Edo, were their families were kept as hostages. Tokugawa also, following Nobunaga's example, used architecture to impress and intimidate his allies and enemies. Impress and intimidate were the most important of the roles attributed to Himeji Castle. The castle was to express visually Tokugawa bakufu political and military power. Considering the strategic location of the Castle, Himeji Castle was a symbol of Tokugawa Shogunate strength, and as a symbol it was important as Edo castle itself.

Edo castle was the Tokugawa bakufu translated architecturally and Honmaru palace different roof typologies were carefully choosen to express the status difference between spaces of the castle. The roof typology of Honmaru palace had a horizontal emphasis because the palace was single stored, and consequently roofs are not superposed. Through the analysis of Honmaru palaces roof typology we saw that there was a direct relation between the roof typology and the function or social status of the space under it.

At Himeji castle different types of roof are combined vertically, there is a superposition of roofs. This vertical emphasis of the roof design is convenient because it is visible from far, as a warning or giving a pre-view of the magnificent power of Tokugawa, that the lords on the way were about to see at Edo. Tokugawa win over the west daimyo lords at Sekigahara and was sure that whatever there was a menace to his power it would came from the west. Occasionally that was what happened. The Meiji Restoration happened under the leadership of Satsuma and other western lands lords.

The Himeji Castle tower is composed of the main donjon connected to three smaller towers. This kind of castle layout is called "renritsu shiki" or connected style. The castle due to its importance as a military strategic site has many military feats. For example in the inner garden there was a kitchen, water well and toilets. Very important military features because in case of site by the enemy, they would help to hold the castle and survive until the allied force arrived from Edo.

The design of the façade is maybe one of the most charming points of the castle. If we compare the elevations and section drawing of the castle (fig. 5-6) we can see that there is little connection between the inner space and the façade. The Castle is seven stores high, but from the façade it looks as if it had only 5 stores high. The stores floors highs don't fit with the design of the façade. Consequently some windows are too high and a wood platform was added under the windows, in manner that the guards could reach it. Comparing the sections and façade drawings we can see that the façade design was not elaborated considering the interior space.

Himeji Castle façade design is composed by the superposition of roof gables. The design of each of the facades is different. The South Elevation (fig.8) roofs, from bottom to top, the first roof layer is of simple roof eaves, the second roof layer is characterized by a huge karahafu bargeboard at the main tower, and smaller karahafu bargeboard at the smaller tower. At the third roof layer there is a hiyoko-irimoya style roof at the main tower, and the small tower, which is much lower and ends here, shows the hipped side of its top hipped-gabled roof. The main tower forth roof layer has a chidorihafu dormer. The fifth and last roof layer is a hipped-gabled roof, which shows its hipped side with a noki-karahafu bargeboard at it eaves. All the roofs ridges are decorated with sachihoko[16].

On the west elevation (fig.9), there are the main tower and two of the smaller towers. The small tower on the left has a noki-karahafu on its first roof layer, on the second there is a hipped-gabled roof showing its gable end, and the third and last roof is also a hipped-gabled roof showing its hipped side with shachihoko decorating its ridge. The small tower on the right is smaller than the one on the left. Its first roof layer is of roof eaves, the second roof layer is a hipped-gabled showing its gabled side, while the third and last roof layer is also a hipped-gabled roof that shows its hipped side and with a shachihoko decorating its ridge. The main tower has three layers of roofs superimposed, a huge hipped-gabled (irimoya) roof shows its magnificent gable end, the second roof layer is a hipped roof decorated with a noki-karahafu and the third roof layer is a hipped-gabled roof showings it gabled end.

The north elevation (fig.10) is also composed by the main tower and two smaller towers connected by a turret. In the

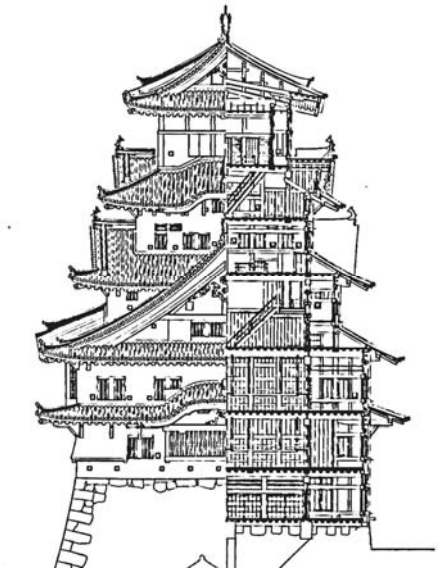

Fig.5: Section-Elevation Comparison (west)

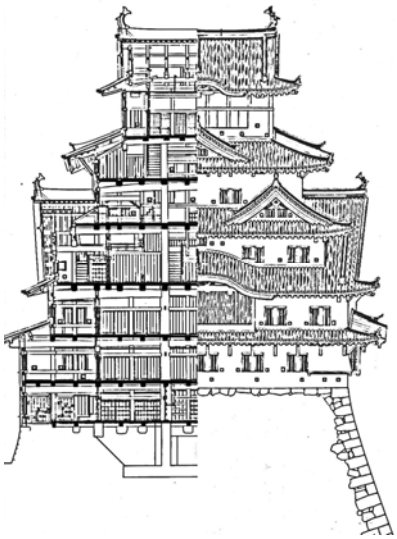

Fig.6: Section-Elevation Comparison (south)

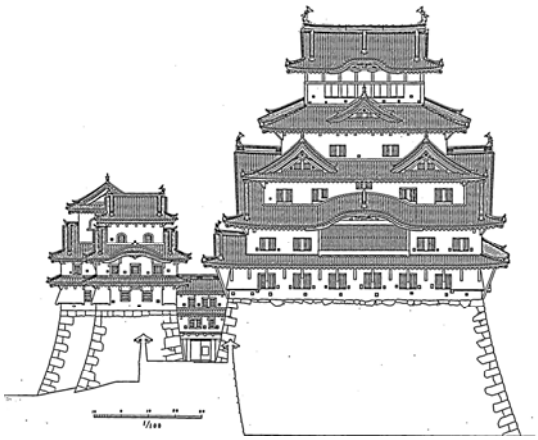

Fig.7: South Elevation

center of the elevation, on the connecting turret first roof layer, there is a noki-karahafu on the roof eaves. The second roof layer of the connecting turret roof is a hipped-gabled roof that shows its hipped side, the tower on the left has a hipped-gabled roof with its gabled end at view, and the tower on the right has also hipped-gabled roof that shows its hipped side, and with a noki-karahafu at the eaves. The third roof layer of the left tower is a hipped gabled roof and shows its hipped side. The third roof layer of the right tower is also a hipped-gabled roof, but it shows its gabled end side. The main tower has five layers of roofs, the first two roof layers are of simple roof eaves and cannot be seen in this drawing because they are hidden behind the connecting turret. The Third roof layer has a hiyoko-irimoya roof and the last roof layer has a hipped-gabled roof that shows its hipped side with a noki-karahafu bargeboard.

The east elevation (fig.11) is composed of the main tower and a turret. The main tower first roof has a karahafu bargeboard followed by a huge hipped-gabled (irimoya) roof showing its gabled end. The third layer of roof is a hipped roof with a noki-karahafu bargeboard. The last is a hipped-gabled roof showing its gabled end.

In Himeji Castle façade design we can identify many symbolic elements, such as the shachihoko at the Castles roof ridges edges. The shachihoko is the sculpture of a fish with a dragon face and was placed at the main roofs ridges end. The shachihoko is a mystic creature believed to protect the building in case of fire by throwing water from its mouth.

Another symbolic elements are the brackets at the top floor. As mentioned the first donjons top floor worked as the lords' watchtower. Consequently most donjons had a balcony all around the top floor. Pillars and brackets were left unpainted, showing residential carpentry techniques and elements to emphasize the connection of the castle tower with residential buildings. In the case of Himeji castle instead of a balcony there is a corridor all around the top floor room, and we cannot get outside the building. The pillars, brackets (*funahijiki*) preserve their silhouette but are painted white and can hardly be perceived. This kind of detail shows that many elements of the castle design were symbolic and had no practical function.

Comparing the four elevation of the Himeji Castle we can see that the South elevation has a more complex roof

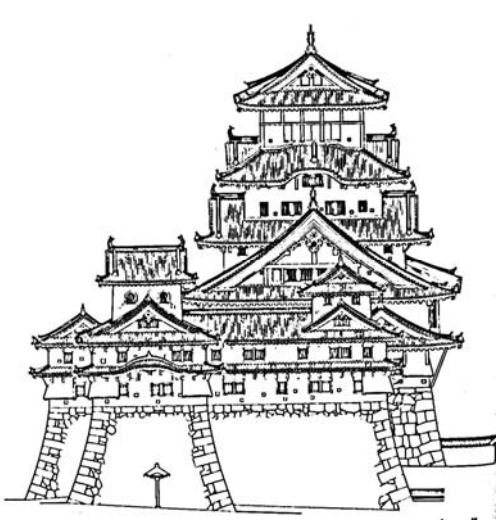

Fig.8: West Elevation

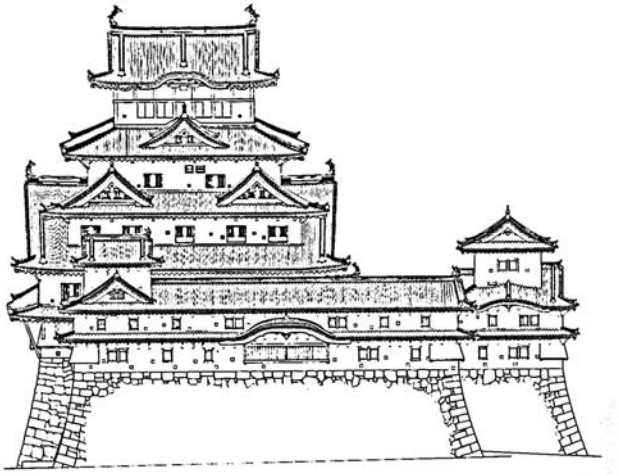

Fig.9: North Elevation

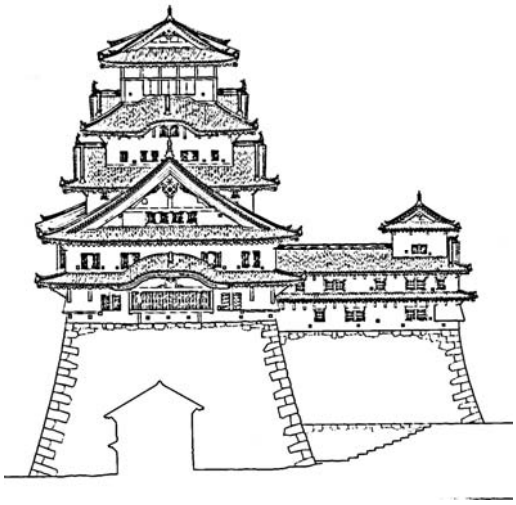

Fig.10: East Elevation

bargeboards, than the other sides of the Castle. The road to form and is decorated with more dormers, and undulating Edo and the port were at the south side of the castle, therefore the south elevation was the most visible one. The south elevation is followed in terms of complexity by the west, east, and the north elevation is the simplest one. The difference between the hiyoko-irimoya roof and the chidorihafu dormer are the eaves connected to the main roof eaves. Himeji Castle's main tower forth roof layer is usually classified as a hiyoki-irimoya, but we can also interpreted them as two chidorihafu dormers, which were placed on a small roof and for that reason ended having the eaves connected to the main roof eaves. Here if we consider the hiyoko-irimoya roof as a double chidorihafu we can find in Himeji Castle façade design semblance with Edo Honmaru Palace roof design.

In Edo Honmaru Palace the entrances were marked with cusped bargeboards (karahafu) roofs. In Himeji Castle there is a huge karahafu roof at the bottom and a smaller one at the top of the main tower. The karahafu was also used on the lower roof layer of other towers of the castle. Therefore in Himeji Castle the karahafu is used to mark the first and the last layer of roof, analogue to the use of karahafu to mark the entrances at Edo Honmaru castle.

Also an analogy can be made between the ways chidorihafu dormers were usewd. In Edo Honmaru palace the number of chidorihafu dormers decrease according to the pavilion political importance. Five chidorihafu dormers were applied on the rood of Ohimroma, two chidorihafu dormers on Shiroshoin's roof, one chidorihafu dormer on Kuroshoin's roof etc. The hierarchically high spaces had lots of chidorihafu on their roof while hierarchically lower spaces had no dormers on the roof. At Himeji castle also we can see at the first roof layer a karahafu bargeboard, the second roof layer two chidorihafu dormer, the third roof layer one chidorihafu dormer and the top layer has no dormer. Similar to Honmaru palace's roof the number of chidorihafu dormers on Himeji Castles main tower decreases toward the top.

In Himeji Castle the design of the superposed roofs have a symbolic meaning and were used to recall different spaces of the samurais residences. Based on the disconnection between the roof dormers design and the interior space of the castle tower we can affirm that the roof were designed to remind spaces of a samurai house, and had a symbolic meaning.

4. Conclusion

In summaryif we compare the design of the roofs used a Himeji castle tower and Edo castle Honmaru palace we can find semblance between them. The karahafu bargeboard was often used on the entrance porch of the samurais' residence, and at Honmaru palace it is used at the Tozamurai and Omote Kitchen entrance. In Himeji castle we can see a symbolic association with the samurais' residence karahafu by placing a karahafu bargeboard on the lower roof layers of the main tower. In Edo castle Honmaru, we have seen that the social importance of the room was expressed in a similar way by the number of chidorihafu dormers applied on the roof. In Honmaru palace the chidorihafu doremers were applied on roof of spaces organized horizontally the number of chidorihafu dormers diminished as the building progress north. In Himeji castle the number of chidorihafu applied on the roofs diminished

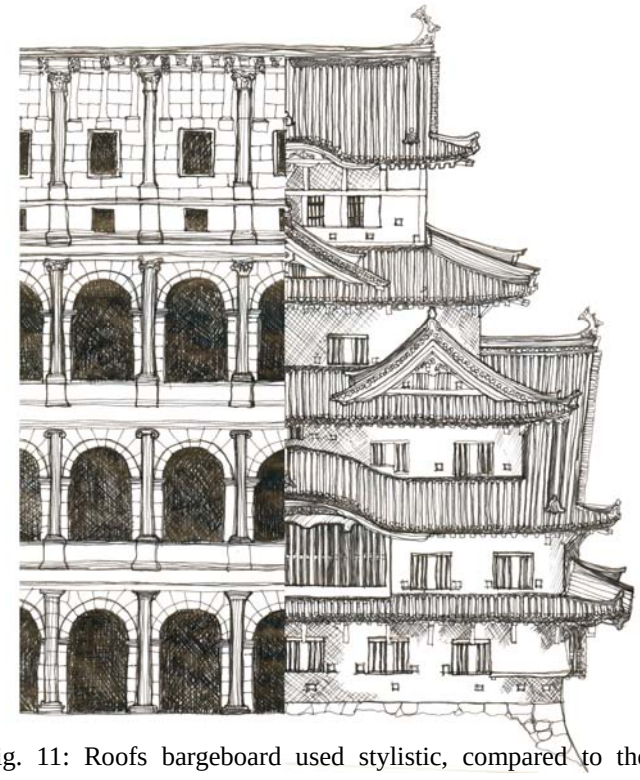

Fig. 11: Roofs bargeboard used stylistic, compared to the stylistic use of superimposed orders in western architecture

vertically, the second roof layer has two dormers, the third roof layer has one dormer, and on the last roof layer there is no chidorihafu dormer, only a noki-karahafu bargeboard. In the case of Himeji castle the chidorihafu are organized vertically and diminished as the tower goes up.

As we could see in Himeji castle the roof is used symbolic, the design of the roof is used to recall spaces of the samurais' residences, and to create an over all imposing and respectful image. The concept of superimposing orders, as seen in Himeji castle, through the superposition of different roofs, gables' ends, and dormers is similar in concept to the superposition of the classical orders, Doric, Ionic and Corinthian in western architecture (fig.12). Although the Colesseum and Himeji Castle have no historical relation it is intriguing how so different cultures can find similar answers.

References

[1] *Bakufu* literally means 'tent government'. It was what the military regime based on the Shogun (general) authority was called. The first Shogunate was by the Minamoto at Kamakura (1185-1333), then by Ashikaga at Muromachi in Kyoto (1333-1573), and finally by the Tokugawa at Edo (1603-1868).

[2] The Meiji Restoration (or *Meiji Ishin*), describes a chain of events that led to a change in Japan's political and social structure; it occurred from 1866 to 1869, a period of 4 years that transverses both the late Edo and beginning of the Meiji Era. The formation in 1866 of the Satcho Alliance between Saigo Takamori, the leader of the Satsuma domain, and Kido Takayoshi, the leader of the Choshu domain, marks the beginning of the Meiji restoration. These two leaders supported the emperor and were brought together by Ryoma Sakamoto for the purpose of challenging the ruling Tokugawa Shogunate (*bakufu*) and restoring the emperor to power. The Meiji Restoration of 1868 ended the 265-year-old feudalistic Tokugawa shogunate.

[3] *The Tzuredzure gusa of Yoshida no Kaneyoshi* translated by George Sansom. Asiatic Society of Japan Transactions, 39, 1911.

[4] Yoshida Kenko "Tsure-zure gusa", translated by William N. Porter, Humphrey Milford, London 1914, P16

[5] Ota Hirotaro (1937)： A Study on Karahahu、Journal of architecture and building science, Vol.51, No.628 pp. 913-914

[6] Adriana P. Higashino " Japanese Architecture Seen from the Roof", PhD Dissertation, Tokyo University 2004

[7] Tokyo Metropolitan Library（http://metro.tokyo.opac.jp/tml/tpic/cgi-bin/detail.cgi?Kbseqid=18836&Sryparam=002）
Hirai Kyoshi and Ito Ryuichi, *Edojo I:Jokaku*, Tokyo:Dainihon, 1992 p.258

[8] Tokugawa Ieyasu (1543 - 1616) was the founder of the Tokugawa shogunate of Japan, and is commonly known as one of the "three great leaders" of feudal Japan (the other two are Oda Nobunaga and Toyotomi Hideyoshi). Tokugawa was originally daimyo of the Mikawa (present-day Eastern part of Aichi prefecture) but was displaced to Kanto during Toyotomi's rule. Tokugawa's influence made him an important ally of Oda Nobunaga. After Oda died and Toyotomi Hideyoshi became Japan's dominant ruler, Tokugawa was named as one of five regents (*tairo*) with the responsibility of looking after Toyotomi's son, Toyotomi Hideyori. When Hideyoshi died in 1598, Hideyori was only five years old. The new regent was placed in the care of Toyotomi's closest ally, Ishida Mitsunari, who attempted to hold the Toyotomi coalition together. Tokugawa, however, saw a chance to usurp power from the Toyotomi loyalists, and assembled an "eastern army" to take on Ishida. The ensuing Battle of Sekigahara (1600) ended in a crushing defeat for Ishida's "western army." In 1603, Tokugawa became shogun.

[9] Fukai Masaumi, *Zukai Edojo wo Yomu*, Tokyo: Geshobou, 1997

[10] Oda Nobunaga: (1534 - 1582) was a major daimyo during the Sengoku period of Japanese history. Son of Oda Nobuhide, a minor warlord with meager land holdings in Owari (now Aichi) province, Nobunaga lived a life of continuous military conquest to eventually conquer most of Japan before his untimely death in 1582.

[11] Nobunaga diary or NobunagaKoki was written by Oda Ushikazutomo under Toyotomi Hieyoshi's orders. The diary is composed of 16 books and cover Nobunaga's steps from 1568, when he expulsed Ashikaga from Kyoto until his death at Honnoji in 1582.

[12] The Battle of Sekigahara was a decisive battle in 1600 that cleared the path to the Shogunate for Tokugawa Ieyasu and his descendants. Though it would take three more years for Ieyasu to consolidate his position of power over the daimyo, Sekigahara is widely considered to be the unofficial beginning of the Tokugawa Bakufu. Toyotomi Hideyoshi arranged for a council of five of his most powerful retainers to rule Japan until his son was old enough to rule by himself. His hope was that the five daimyo would effectively balance each other and prevent any one of them from taking control. No such luck. The daimyo quickly prepared for war -- most of them opting to join an anti-Tokugawa coalition. Tokugawa Ieyasu was the strongest of the daimyo. Although the battle was close, in the end Tokugawa Ieyasu and his allies won a decisive victory.

[13] 加藤他「日本名城集成　姫路城」小学館 1984

[14] Kashiba Hideyoshi , who later changed his name to Toyotomi Hideyoshi (1536 - 1598), who was a Japanese general who united Japan. He succeeded his former liege, Oda Nobunaga. Later he invaded Korea. He is known for a number of cultural legacies, including the restriction that only members of the samurai class could bear arms. He was born with no traceable samurai lineage and hence without a surname. As a youth, he joined the Oda clan as a lowly servant. He quickly was noticed for his resourcefulness and rose high enough to be given a full name: Kinoshita Tokichiro. Despite his peasant lineage, he quickly became one of Oda Nobunaga's most distinguished generals, eventually taking the name Toyotomi Hideyoshi. After Oda Nobunaga's death in 1582, Hideyoshi took control of all Oda territory within a year and was pronounced to succeeded him as military ruler and, aided by Tokugawa Ieyasu , had by 1590 ended the Sengoku period by reunifying Japan.

[15] Ikeda Terumasa (1565-1613) fought together with Tokugawa Ieyasu at the Battle of Sekigahara and in recompense of his services he received a fief at Himeji. He was also married to Tokugawa Ieyasu's daughter.
Historical information about Himeji Castle and the drawings were based on the restoration reports of 1960
姫路城保存修理工事報告書、文化財保護教員会　1960

[16] Shachihoko: sculpture of a fish with a dragon face the shachihoko is a mystic creature believed to protect the building in case of fire by throwing water from its mouth.

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