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New face, old myth

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Rochester Institute of Technology

A Thesis submitted to the Faculty of the

College of Image Art and Sciences

In candidacy for the degree

Master of Fine Arts

New Face, Old Myth

by Ping-chun Hsien

Jan 30, 2012

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Acknowledgements

“Old myth, New face” is a project that attempts to put two of my favorite things together, which are mythology and 3D character design. I want to give thanks to my Mother who introduced me to the field of mythology, and professors who encouraged me to do further research into mythological studies to make this project more meaningful. Also, I want give thanks to my friends who provided me with good advice and warm support. I would not have been able to complete this project without them.

Ping-chun Hsien

Professor Shaun Foster

Thesis for Master of Fine Art

Jan 10, 2011

Abstract

We live in a digital age where information on foreign cultures is no longer hard to come by. Designers can easily access any foreign religious symbols and mythical stories by simply searching the internet and then interpret in their own way without consideration as to their original meanings. With this convenience, however, information from the internet is sometimes misconstrued after several interpretations, or it simply may not be correct. As a result foreign cultural elements may seem misplaced or ridiculous to audiences who are familiar with the culture. As a 3D designer from Asian culture, I often sense these misappropriations of Chinese cultural symbols in entertainment products such as video games and movies. In those products the cultural symbols only serve as graphic images and lose their meaning as metaphors.

The goal of this thesis project “Old myth, New face” was to create a series of digital characters which are not only able to preserve the cultural connotations, but also could be accepted by users who are familiar with the character style of existing entertainment products.

Thesis Statement

I started by reading *A Chinese Bestiary*, the ancient Chinese book that collected drawings and texts of Chinese mythical tales. From this book I chose several characters suited for this project. I contrasted my selections of specific characters by examining archetypal mythologies; I searched for common elements existing in mythical tales no matter in what language they were written. My goal was to use this in my design so viewers and readers, despite their different cultural background, could feel the same about those elements. With this idea in mind I extended my research range to mythological tales from other cultures such as Greek and Indian, and then discovered some common mythological elements that appear in mythical tales all over the world. Since the goal of this project is to design new appearances for the characters I chose characters from *A Chinese Bestiary* and kept the cultural meanings intact. This will allow audiences who may not be familiar with Chinese mythology to experience and learn some of the cultural symbols in them. I believe it was an efficient way to enhance the mythical metaphors and demonstrate the depth of my Chinese mythical characters at the same time through applying mythical symbols from various cultures into my design. I also feel that the archetype of myth should project common emotions in everyone.

Usually in the mythical creature characters that were made for entertainment products, mythological elements were merely the decorations for the characters, since audiences of those products demanded stimulating graphics more than the story behind the characters. My goal is to reverse that standard and design intriguing characters based on fully researched mythological data.

Characters & Features

Three Chinese mythical characters were chosen to be the prototypes of this project. The character introductions and features are as follows:

1. **Zhu Rong**- the God of fire

Originated from the Chinese version of *A Chinese Bestiary* “南方祝融，獸身人面，乘兩龍” (738; vol. 6 pt. 13), which translates to a description of **Zhu Rong** as “the God of fire has the face of a human with the body of a beast. It flies across the sky with a carriage drawn by two dragons.”

Reading from; *Transformations of Myth through Time (2)* and *The Hero with A Thousand Faces (3)* by Joseph Campbell, gave insight into **Zhu Rong**'s association with fire. From these I developed and applied several design metaphors to my character design.

- The God of fire usually connects to one source in mythological tales: the Sun.

- In Hinduism the God of fire is known as “the mouth of all gods” for fire plays a vital role during religious rites to offer up a sacrifice; which happen to be the same in China.
- Ancient China was one of the earliest nations to master the art of metallurgy, and the element of fire was highly respected because of its intimate connection to it.
- The most well-known story about **Zhu Rong** in Chinese mythology is about a war with the God of water, **Gong Gong**. This relates to another epic topic of mythology: the flood myth; since this project also includes the God of water, **Gong Gong** as one of the three characters to be redesigned, it would be necessary to design the two characters as contrastive opponents.

Combining the sources above, the appearance of **Zhu Rong** is represented in the following image (fig. 1):

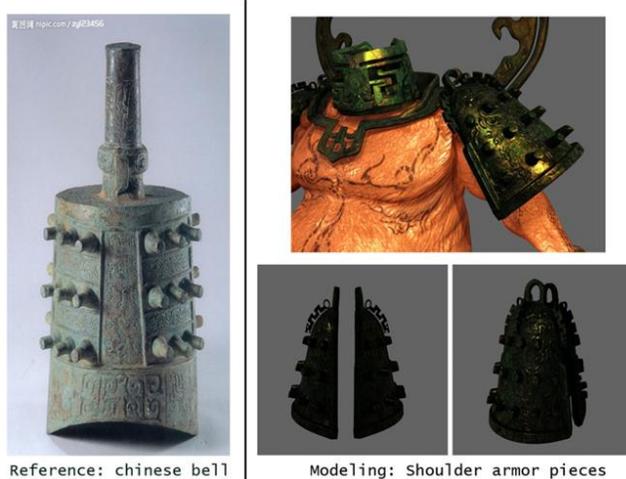


Zhu Rong-the God of Fire in Chinese (Fig. 1)

The obese body shape is to imply the devouring nature of fire, and the tiger limbs on its lower body reflect the text's description in *A Chinese Bestiary*. The bronze armor on the God of fire is not only to salute ancient Chinese achievements in metallurgy, but also to hint at the connection between fire and religious rites. Bronze items were regarded as ceremonial instruments in ancient China for a long period of time.

The design concept of the shoulder armor is worth mentioning; the modeling idea is a separated Chinese bell (fig. 2), a half bell shape on each shoulder. The evening drum and morning bell in a monastery symbolize the agriculture life style of ancient China; the sound of

the morning bell brings strong images of the sunrise. I adopted this concept into my character in order to give a hint that the God of fire is usually connected to the Sun. The proof of the theory is that in *A Chinese Bestiary* **Zhu Rong** flies across the sky with a carriage drawn by two dragons which similar in nature to the Greek and Roman God of the sun Apollo, who drives the flaming carriage patrolling the sky. The similarity between these two gods makes convincing support for that concept in mythology study; the worship of fire and sun are strongly connected.



(Fig.2)

2. **Gong Gong**- the God of water

According to *A Chinese Bestiary*, **Gong Gong** is the God of water, with the body of a snake and red hair. The text descriptions about its appearance are rare; however, as mentioned before, **Gong Gong** and **Zhu Rong** are opponents to each other; the design concept of **Gong Gong** is based on the opposite of everything **Zhu Rong** has, which

added further the archetypal elements to the God. The mythological elements are as follows:

- Water and fire are both natural elements revered by ancient people, yet water was more fearsome to the ancient Chinese as compared to fire. The reason is that the ancient Chinese suffered the rampage of floods for thousands of years.
- According to folk beliefs of China, dragons are given the duty of controlling rains by the emperor of heaven; the oriental dragon itself is the symbol of water, wind and storms. Water and dragons are strongly connected in Chinese mythology.
- In Chinese culture, tigers and dragons are both powerful animal symbols that cannot co-exist. **Zhu Rong** has the features of a tiger according to *A Chinese Bestiary*; it is appropriate to apply dragon symbols on its opponent

After combining the sources from the research, the design of **Gong Gong** is shown in the following picture (fig.3):



Gong Gong-the God of Water in Chinese (Fig.3)

The thin and elongated body shape is contrary to that of **Zhu Rong**'s. The Chinese character 水-which means water, give the appearance of having four arms. There are four different Chinese symbols in **Gong Gong**'s hands to represent wind, rain, thunder, and lightning. Here my intention is to present a mighty, wild, and fearsome arbitrator of bad weather.

The armors on its body also contain a great deal of information. The curving shoulder armor shape leads to a hint of the Cornices walking angle structure that appears on the rooftop of Chinese temples. The first reason for the design is that dragons are believed to be the guardians of temples, and the second reason is that this shape could imply people's worship of the God of water despite its notoriety. Besides the armors, **Gong Gong** also wears a Chinese style imperial crown to reveal its dominion of natural elements. The material of its customs is mostly jade,

because jade took an important role in the religious rites and culture of ancient China. The combination of splendid outfits and demonic body displays the mythical feature of the water element, which means, it is both feared and respected.

3. **Pan Gu**- the God of creation

The story of **Pan Gu** was first seen in *Three Five Historic Records*, a mostly scattered and lost document of Chinese mythology written around 220~280 .AC. (*Pan Gu*, Wikipedia.org)

Pan Gu was recognized as the creator of the world in Chinese mythology, however, its situation is different from the God's from Genesis in the Christian Bible. According to legend, **Pan Gu** first lived inside an egg of chaos, When he grew too large to fit into the limited space he breaks the egg, separating the sky and earth from chaos. After that **Pan Gu** supports the sky from falling back and keep growing until sky and earth were leaved far enough apart. **Pan Gu** then gave the world the final legacy: itself. **Pan Gu**'s body turned into mountains and rivers, and its eyes turned into The sun and the moon to forever watch over the space it created.

Pan Gu was described as a man of might, but there is a lack of details on its appearance in ancient documents. Instead of following the stereotype, I prefer to put on a focus on the concept that this world is livable because **Pan Gu** was willing to sacrifice itself. With the fundamental concept decided, there are more ideas that could be applied to this character:

- The image of **Atlas**, the giant who carries the earth on his back, occurred to me, and his situation of suffering the weight of the world on his shoulder is similar to that of **Pan Gu** except **Pan Gu** voluntarily carried it.
- In the story **Pan Gu**'s remains transferred into objects such as soils and trees; this could be related to the concept of mother earth in mythology.
- In order to present **Pan Gu**'s story, items with the implication of the sky and earth are necessary. There are many symbols in Chinese culture that fit my needs, such as black and white, yin & Yang, and circle and square. In this case I took circle and square as the basic concept for the stage properties.

Combining the ideas and applying them to the character design, the following is the final result (fig.4):



Pan Gu-the God of Creation in Chinese (Fig. 4)

To match **Pan Gu**'s statue as a god that is worshiped and its self-sacrificing action, many decorated objects are put on **Pan Gu**'s body. Those objects are designed to represent its burdens and duties; even its body of stones is hunchbacked and aged with time from carrying the weight. On the other hand I adopted colors usually seen in Chinese temples to those objects to hint that the burdens are the reason why the god was worshiped.

Generally speaking, **Pan Gu** is the most experimental character in this project. In its design there are many nontraditional ideas in this should-be traditional God. The features of **Pan Gu** are static compare to the other two characters, which also make it look less aggressive. From my point of view, the design of **Pan Gu** was the most challenging. It took great effort from me to visually represent the immense power within such a peaceful character.

Process & Challenges

The project began with researching mythology, including mythical tales from different cultures, meanings of mythical icons, and philosophical thinking as it relates to mythology. After gathering enough data it was time to start drawing sketches of the characters.

The function of the sketches was to develop a visual style and consistency that would translate into faster and more polished final results. I began drawing by using Photoshop because this software has the ability for to modify my designs without having to draw all over again. In

the meantime, I still carried a sketch book with me in case inspirations occurred when there was no computer at my side. After the approximate designs were secured, it was time to begin the working process in 3D software. The final results only have a 60%~ 70% similarities to the sketches because the original ideas were still being modified.

The most time-consuming part is to build the characters using 3D software. I used Maya and Mudbox for this project. All of the technical problems and solutions for building each character are recorded as follows.

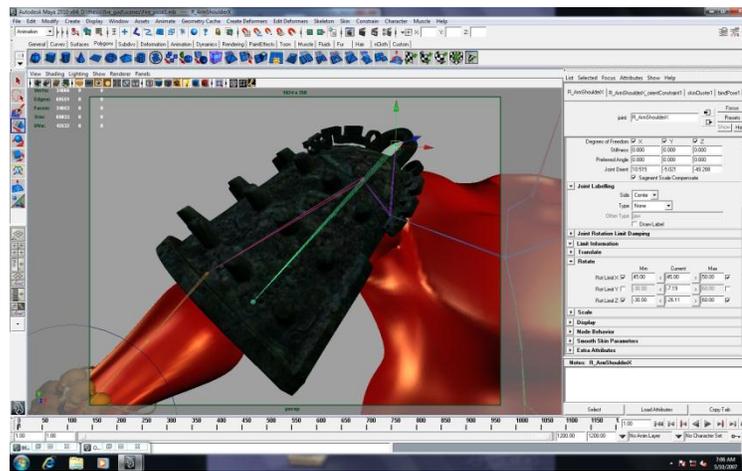
Working log of building Zhu Rong

- **Modeling:** Each character has special features to make their unique appearance. In this case, **Zhu Rong** has the legs of a tiger and huge tripe. Those special features are exaggerated in shape, and I had no difficulty in building them. To sum up, the process of modeling **Zhu Rong** was went smoothly.
- **Texturing:** Each character carries 3 texture maps, which are the Color map, the Normal map, and the Specular map. The Color map gives the color to the characters, while the Specular map decides the different reflecting rates of each part of the character. The Normal maps were made in Mudbox and are used to present details such as wrinkles, cracks, and veins on different surfaces. Many errors occurred during the making of Normal map because of my inexperience in using Mudbox. It caused the loss of details for the characters and took me more time in trouble –shooting.

Texturing solution: The first step was to correct the UV layout in Maya; after the UV shells were rearranged they had larger spaces for me to paint the textures. The second step was to separate one character model into parts, then work them part by part into Mudbox. Each separated part has less polygons thus allowing Mudbox to create higher subdivisions without crashing the working PC. The result is satisfying because I got higher quality details in each separated part and after I combined them together the character looks impressive because of those details.

- **Rigging:** the term rigging refers to assigning a bone structure for 3D characters and making them able to be posed and animated. The part needs special setting in **Zhu Rong** is its shoulder armor. The reason is that on this part of the armor there is a hook structure, and with a regular arm rigging method the shoulder armor would depart from the hook if the character raises the arm to an extreme position.

Rigging solution: the basic rigging method of shoulder armors is simply applying the armor models to the up-ram bone using the parent function. In **Zhu Rong's** case, however, an extra bone for the armor piece was necessary. With an extra bone I can modify the center point of the armor to the position near the hook. It will react as a hanging object when the arms are moving after having assigned the armor bone to the upper-arm bone. Furthermore a restraint of rotation angle was made to keep the shoulder armor from moving too far and leaving the hook. (fig.5)



Rigging: shoulder armors (Fig. 5)

- **Animating:** There are five second movements for each character to demonstrate the mobility of the character model. Also the character and its basement will turn 360 degrees and keep looping during final presentation.

Working log of building Gong Gong

- **Modeling:** The model of **Gong Gong** is more complex than the other two characters basically because of its four arms and decorations on its armors. It took more working hours than anticipated to build all the accessories. Some audience numbers questioned the huge shoulder armors claiming they looked too heavy for the character, which made them not visually credible.

Modeling solution: In the improved version, eddied metal bars were added beneath the shoulder armors. Those new objects were designed to imply the existence of a supporting structure and make the armor look believable to the audience's eyes.

- **Texturing:** Two major challenges occurred during the working process of **Gong Gong**'s texture. One challenge was its Normal map had the same problem as **Zhu Rong**'s: the loss of details. With the same solving method the problem was fixed. The second problem came from my attempting to use a special shader called "Maya fast skin" on this character to mimic the transparency of the skin of an amphibian. The shader itself contains three layers of color information and each will react differently to the direction of the light source. After several failures I was convinced there was no way to achieve the result I want by only using Maya. It requires multiply software to gain a better result.

Texturing solution: First, I created the basic skin tone in Photoshop; the color was gradually changed from deep blue to light blue. The following picture contains images details like tattoos and pores will be assigned to the first layer of maya fast skin shader. The secondary layer color is supposed to mix with the color from the first layer and mimic the skin color under certain light sources; I put a yellow color in spots where the skin was thinner. In the third layer, the image of blood vessels only appears when the light source is from the back. With three images assigned to the shader it can generate more interesting results than applying a single color map.

- **Rigging:** There was not much trouble in rigging this character. I used the basic rigging method for human characters to finish the rigging up of the body and the same rigging method for the snake to finish the lower body. At the end I set a bone in the waist to connect everything.
- **Animation:** The first version of **Gong Gong**'s movements was considered to be inharmonious. The original plan was to make the character looks like floating around in invisible water with its four arms waving up and down. As a result, there were too many movements at the same time and viewers lost their visual focus.

Animation solution: I took advices from my professors and looked into the postures of opera actors. The secondary version movements emphasized the four arms and an overstated end pose to draw viewer's eyes to the upper body. The lower body movements were reduced to slight swings of tails. Combining these with the glowing symbols in each palm makes this modified version much more intriguing.

Working log of building Pan Gu

- **Modeling:** The feature of the look of **Pan Gu** is its hump. The stooping form indicates its burden is heavy, and its back bulged like a mountain gives a hint of the denouement of its story. With this thickened back; however, the modeling method of the shoulders would need to be altered to maintain its movability.

Modeling solution: The model of **Pan Gu** will be demonstrated in the posture of its arms raised to support the sky. In order to keep its shoulder movements from deforming its

humped back, the shoulders of **Pan Gu** were rotated 90 degrees from normal position and pointed up regardless of the bent down pose. This is a violation of human anatomy but avoided the deformation of the back and allows its arms to move more freely.

- **Texturing:** The color map of **Pan Gu** was a combination of images of different stones, dirt, and mosses. The color choice was to show that the nature of **Pan Gu**'s body is nature itself. However, the usage of similar grey stone colors blurred the detail from the normal map on **Pan Gu**'s body. Those details are patterns and stone cracks made to mimic the wear and tear of aging stones. The body would seem too smooth and fail to present the aging feeling if the details couldn't show up.

Texturing solution: The first step is to convert the normal map into a grayscale image by using Photoshop, and then open the color map file of **Pan Gu**. The secondary step is create a new layer in the color map file then putting in the grayscale image just made, changes the blending mode to be multiple. These steps will add patterns to color map like a rubbing, so the color map now has the details from the normal map. The last step is using the contrast/brightness function in Photoshop to increase the contrast to make the details even more vivid.

- **Rigging:** Before starting rigging, I had anticipated that the movement might have a problem and used the modeling solution to fix the shoulder part. Then I applied the basic human rigging method to this model to make it moveable.

- **Animation:** There are very few movements in the demonstration of **Pan Gu**. It is because the story of **Pan Gu** is a static one, and the model has to keep in one static pose, too.

Conclusion

I feel I accomplished many of my initial goals for this thesis project. I applied the 3D character design ability I learned during my period of study in graduate school, and developed a series of characters based on Chinese mythology on my own. In my opinion, an intriguing character should contain meanings beneath the beautiful external appearance, and after doing my review of various mythologies during my research for inspiration I was more convinced that applying visual archetypes and historical motifs from were indeed are a huge plus for character designers. It not only makes the characters rich in features, but also keeps me from putting too much effort into the graphic aspect and which might dilute the real purpose of my design goal. A computer graphic designer should not only work to fulfill the demands for entertainment, but also focus on preserving and delivering knowledge to audiences at the same time.

One important fact I have learned from processing through the entire thesis project is that repeating similar procedure actually slows things down, and to keep working efficiently requires a well-developed pre-stage plan. In this project I had three characters to build, and my working method was to finish each character one by one; if I confronted trouble in building one character, I stayed with it until I finally found a solution. As a result, the entire schedule was delayed. If

there was a more flexible working procedure the whole project should be done with fast speed and less stress.

Despite many obstacles in producing these characters, I still enjoyed doing this project. I was able to generate the digital characters to look modern enough to put into a video game, and in the meantime carry mythological metaphors and cultural elements within. To sum up, with the power of computer graphic design, stories that were considered old and stale could become modern and intriguing.

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