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Panda Bears and the Moon Goddess: Myths and Legends of China

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Just before I left China to return to the USA, a Chinese friend told me their creation myth. Wonderful! It seemed very appropriate, especially as I was teaching parasitology in the Medical School at Soochow University. Here it is:

A Creation Myth

Once upon a time, in the very beginning, all was chaos. A black cosmic egg emerged out of the darkness, containing Pangu curled up inside. Eventually Pangu awoke from his deep slumber, stretched out his limbs and cracked open the egg. The light part of the egg floated upwards and became the heavens. The heavier half of the egg, the yolk, remained below and formed the earth. Pangu stood in- between, the top of his head gracing the heavens, legs astride, his sturdy feet placed firmly on the earth. Every day, Pangu grew ten feet for 18,000 years, keeping the sky and earth apart with his body, now nine million *lĭ in height (30,000 miles apart) so that they would never join again.

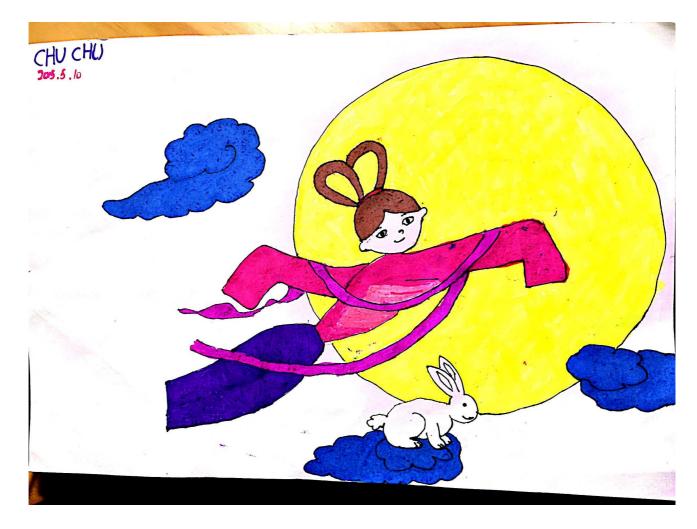
Pangu's life was very long but he finally died, lying with his head to the east, feet to the west horizon. His head is now the territory of the impressive Shandong Taishan Mountain; his toes overturned is now the peak of Huashan Mountain in Shaanxi Province; his belly up tall is now the peak of Songshan Mountain in Henan Province; his left arm in the south is now the territory of the Hengshan Mountain ranges in Hunan Province; his right arm in the north side of the body is now the Northern Hengshan Mountain in Shanxi Province.

The sun and the moon were born from his two eyes. Roads lacing across the land grew from his veins and his muscles became fertile land. His long beard produced numerous stars to light up the sky. His skin, hair and fine body hairs were changed into the land of trees and flowers. Jade and pearls came from his marrow. Sweat from his brow, of all his labours turned to fine rain and morning dew that nurtured the plants and insects. Tears of joy flowed into the rivers and the radiance and brightness of his eyes turned into thunder and lightning. The sun shone brightly when he was happy, but black clouds hung in the sky when he was angry. Some say he is still responsible for the weather, which changes according to his mood. The parasites on his body, the lice and the fleas, fertilized by the wind, became the ancestors of human beings.

It is said that Pangu's image can still be seen in a cave cherished by the Miao tribe in the mountains of Kuangsi.

E-Leader Macao 2017

My previous paper presented at CASA Macao 2017 was on Climate Change and Sustainability in China. The ancient myth told of the Moon Goddess and the Jade Rabbit reflects the current global situation where 2016 was recorded as the hottest year ever, overtaking 2015. Probably 2017 will beat the 2016 records for hottest year also. Enclosed is this Chinese myth:



The Moon Goddess and the Jade Rabbit.

The name of the Chinese satellite, Cháng'é, is of a goddess, or fairy, who flew to the moon according to an ancient legend dating from the Tang Dynasty (AD 618-906).

Once upon a time, there were ten suns circling the earth, one every ten days. One day, all ten suns circled the earth together, scorching everything, blistering the plants and trees

and drying up the rivers and lakes. The beautiful maiden, Cháng'é was married to Hou Yi, a famous archer. Hou Yi took aim at the suns and shot nine of them down with his arrows, saving the earth from destruction. The gods rewarded Hou Yi by giving him the elixir of immortality. However, his wife, Cháng'é, was jealous and secretly drank the elixir so her beauty could be immortalized. As soon as she started to drink the elixir of immortality, she began to float upwards to the moon. Here she became a goddess accompanied by a Jade Rabbit. The Rabbit spends his time mixing combinations of Chinese medicine, trying to find a special potion that would enable Cháng'é to return to her husband on earth.

The archer, Hou Yi, was now alone, but the immortals took pity on him, so once a year he visits his wife on the fifteenth day of the full moon, the eighth lunar month. It is said that is why the moon is most beautiful at that time of year. Sometimes when people look up towards the moon, the outline of Cháng'é can be seen as she dances a solitary dance in the cold light of her lonely palace. This story is one of many variations but it is the one the Chinese students told me.

One of the craters on the moon is named after the Chinese Moon goddess, Chang-Ngo. Famous poet, Li Bai, wrote about the Goddess on the moon.

The Moon Goddess

"Waiting, she finds her silk stockings soaked with the dew drops glistening on the marble steps. Finally, she is moving to let the crystal-woven curtain fall when she casts one more glance at the glamorous autumn moon." Li Bai, aka Li Po (701-762) An Imperial Concubine Waiting at Night

The Jade Rabbit ended up on the moon, as it was told, as once upon a time long ago there were three immortals. One day they transformed themselves into sad, skinny old men and begged for food from a fox, a monkey and a rabbit. The fox and the monkey offered food to the old men, but the rabbit, empty-handed, had nothing, except grass. He offered his own flesh instead and took a leap into a burning fire. At that very moment, the immortals, moved by his sacrifice, swept the rabbit up and saved him from the fire.

In 1978, President Jimmy Carter gave one gram of lunar soil as a gift to the Chinese people and half of this was sent to the Beijing Observatory. This gift provided the inspiration for the Chinese Lunar Project and a trip to the moon. Outside support for this project was provided by Russia. Before America landed on the moon in 1969, this conversation took place between mission control in Houston, Texas and astronaut Michael Collins on board the space shuttle, Apollo:

Houston:

"Among the headlines concerning Apollo this morning there's one asking that you watch for a lovely girl with a big rabbit. An ancient legend says a beautiful Chinese girl called Chang-o has been living there for 4,000 years. It seems she was banished to the moon because she stole the pill for immortality from her husband. You might also look for her companion, a large Chinese rabbit. The name of the rabbit is not recorded."

Michael Collins:

"Okay, we'll keep a close eye for the bunny girl."

Another favourite myth is this one:

The Pandas and the Shepherdess

Once upon a time a beautiful shepherdess called Dolma, lived in Wolong Valley, beloved by everyone for her kind heart. The shepherdess always took her sheep into the hills surrounding the valley and every day a young panda bear cub, back then known as *beishung* would join her flock. In those days pandas were all white so possibly the panda thought the sheep were other pandas.

However, one day the panda cub was gamboling with the sheep and lambs but suddenly a leopard attacked the panda. The shepherdess grabbed a big stick, and in turn attacked the leopard. The panda was able to escape from the jaws of the leopard but the leopard killed the beautiful young girl.

The other pandas heard of this terrible event and mourned the beautiful shepherdess who had saved the panda cub. They all came to her funeral and to show their respect they covered their arms with ashes, as was the custom at that time.

The funeral was a very sad affair and the pandas were overcome with grief and sadness. They sobbed and wailed, sobbed and cried out in their painful sorrow, wiping their eyes with their paws. They cried so hard and their sadness was so loud that they covered their ears with their paws to block out the noise. Wherever they touched their white fur, the ashes stained their fur black. That is why to this very day, all pandas bear the dark marks of the ashes on their fur in memory of the kind and loving shepherdess.

The shepherdess's three sisters also overcome with grief and sorrow, threw themselves into her grave. The earth rumbled and shook and a huge mountain sprang up from the grave. That mountain still stands there today and is known as the Four Sisters' Mountain *(Siguniang)*. Each sister was transformed into one of its peaks, guarding and protecting the panda bears to this day.

A long time ago, about 20,000 - 30,000 years ago, pandas were distributed across 16 provinces, including near Beijing. Today, wild giant pandas live only in three provinces, Sichuan, Shanxi and Guansu with eighty percent of the animals living on the Chengdu Plain in Sichuan. In 2005, the Chinese government created over 50 panda reserves in a conservation effort to preserve their national emblem.

Pandas are regarded as "Living Fossils" and are the only mammal to have survived the Pleistocene, three million years ago. They evolved from ancient carnivores with long tails but today their teeth are those of a herbivore and a bamboo eater. Pandas have a long history in China. It is written in **Annals, Biographies of Five Emperors**, that 4,000 years ago, Emperor Huang used to have pandas (*pixiu* - ancient name for the Giant Panda) for the purpose of fighting the enemy.

Pandas don't hibernate. In summer they eat in the early morning but in winter they eat all day so it is much easier to see them in their natural habitat. The black and white colouring serves as camouflage against the snow. There are a total of sixty bamboo species that pandas can eat. The panda reserve in Chengdu had forty different bamboo species, but the animals basically feed on roughly twenty species, digesting protein and sugars in the bamboo.

Giant Pandas are also solitary animals, known as "bamboo recluses." When they are one and a half years old they leave their mothers to live on their own in the wild, marking their territory on tree trunks and rocks with a scent-making secretion from the crissum gland. They live at an altitude of 2,000-3,000 feet in conifer and broad leaf forests. Up until about three years of age they like to climb trees, but they spend a lot of time eating, just like their human counterparts, sixteen to twenty-four hours/day in fact are spent eating bamboo. The ultimate Chinese snacker! However, the digestive system of the panda is that of a carnivore, despite its herbivorous diet. Occasionally it may prey on small animals, reverting to its roots.

The museum at Chengdu had recorded the panda daily intake of about forty kilograms of bamboo shoots and an enterprising researcher had meticulously noted that this involved 150 droppings/day. More details had been painstakingly recorded; when pandas eat bamboo stems, usually seventeen kilograms per day, this results in 120 droppings. For leaves and branches, they eat ten to fourteen kilograms daily also with 120 droppings. I had visions of a researcher hiding in the bamboo forest counting panda droppings - such is research. According to **Time Magazine** (August 13, 2007) the Chengdu breeding center's monthly cost of cleaning up about a ton of panda droppings was \$770. Now they have a new financial strategy where the panda dung is sterilized at 300°C and made into panda statue souvenirs for the 2008 Olympics, but no smell!

Back during the Ming Dynasty, pandas provided different products. The famous pharmacist, Li Shizhen, wrote in the **Compendium of Materia Medica** (*Bencao Gangmu*), a record of traditional Chinese medicine, that panda fur makes excellent dry bedding preventing coldness and wetness, as well as pestilence and vice. Panda oil can

penetrate the skin to cure tubers and panda urine and water, when drunk can dissolve metal things eaten or swallowed accidently.

One hears a lot of concern regarding the breeding ability of pandas and the difficulties but not much more than that. Apparently, the male panda penis is very short, while the female vagina is quite long, therefore resulting in quite a low insemination rate. Size does matter in this case. The museum at Chengdu had kindly placed these organs on display.

Female pandas are only fertile a few days of the year. Research in 2009, by Chinese and American scientists made the remarkable discovery that female pandas "chirp" and vocalize to the males to let them know they are ready, that now is the time. A serenade to entice the males. The male and female pandas also prefer different habitats. Males roam widely, but females live at higher altitudes in conifer mixed forests more than 200 years old on steeper slopes. These areas are good for panda dens where they give birth under a dense bamboo cover.

Twins are born to pandas forty-five percent of the time and when the baby panda is born it has a long tail. This tail degenerates with growth leaving a short stump, a reminder of its evolution from ancient carnivores with long tails.

Mammals have five digits on each paw, but the giant panda possesses six digits on each paw, five "fingers" and an opposable "thumb" or false thumb, that enables the panda to grasp bamboo stalks. This "thumb" is a mutation and in fact is an enlarged wrist bone or sesamoid bone with attached muscles and tendons. This evolutionary adaptation enables the giant panda to grasp even more bamboo against the other five digits, facilitating survival. All pandas today have five digits and an opposable "thumb".

Another restaurant for dinner – this is a lifestyle I could get used to very easily. Eating out is very reasonable and always a communal affair with lots of laughing and joking and toasting *gambei's* if the occasion arises. These toasts usually involve drinking Baijiu, a Chinese clear spirit made of maize or sorghum that is very similar to German schnapps. *Gambei* means 'dry glass' so you must toss back the entire glass. A famous Chinese poet, Li Bai or Li Po (701-762), also known for his consumption of alcohol and many *gambei's*, wrote a famous poem:

Drinking Alone by Moonlight

"Riches and poverty, long or short life, By the Maker of Things are portioned and disposed; But a cup of wine levels life and death And a thousand things obstinately hard to prove. When I am drunk, I lose heaven and earth, Motionless-I cleave to my lonely bed. At last I forget that I exist at all, And at that moment my joy is great indeed.

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Ah, the ups and downs of life faced by each of us who have touched the earth and breathed its air."

One story tells that Li Bai attempted to embrace the moon from his boat while in a drunken stupor and drowned in the Yangtze River. The moon in China has Chang-e, the lady of the moon living there (see previous myth), compared to the Western man in the moon. Another famous *gambei* toast was given quite eloquently by then US President Richard Nixon to Premier Zhou En-lai at a banquet in Peking on February 21st, 1972. Nixon stated in response to a toast from Zhou En-Lai:

"What legacy shall we leave our children? Are they destined to die for the hatreds which have plagued the old world, or are they destined to live because we had the vision to build a new world? There is no reason for us to be enemies. Neither of us seeks the territory of the other; neither of us seeks domination over the other; neither of us seeks to stretch out our hands and rule the world.

Chairman Mao has written, 'So many deeds cry out to be done, and always urgently. The world rolls on. Time passes. Ten thousand years are too long. Seize the day, seize the hour.'

This is the hour, this is the day for our two peoples to rise to the heights of greatness which can build a new and a better world. In that spirit, I ask all of you present to join me in raising your glasses to Chairman Mao, to Prime Minister Chou, and to the friendship of the Chinese and American people which can lead to friendship and peace for all people in the world."
